

METHOD AND APPARATUS FOR BACKSIDE MONITORING OF VCSELS

ABSTRACT OF THE DISCLOSURE

5 A VCSEL (vertical cavity surface emitting laser) is formed on the top surface of the substrate having an opposed bottom surface. In one exemplary embodiment, the opposed bottom surface is polished and coated with an anti-reflective coating. A photodetector is disposed beneath the bottom surface and is capable of detecting light emitted by the VCSEL. In another embodiment, an angle selective filter is
10 disposed between the photodetector and the unpolished and uncoated bottom surface. The apparatus urges light emitted by the VCSEL to be detected by the photodetector and limits light from other sources from reaching the photodetector. A method for monitoring the optical output of a VCSEL includes providing one of the exemplary apparatuses, causing the VCSEL to emit light that is detected by the
15 photodetector, and adjusting the optical output of the VCSEL based on the amount of light detected by the photodetector.